

This listing of claims will replace all prior versions, and listings, of claims in the application:

**Listing of Claims:**

1 1. (cancelled)

1 2. (currently amended): A magnetic head having a magnetoresistive sensor,

2 comprising:

3 a plurality of sensor layers;

4 a hard bias/lead structure being disposed at side areas of said sensor layers, said

5 hard bias/lead structure including:

6 a hard bias layer having a crystalline structure and electrical lead layer having an ordered

7 crystalline structure, and wherein said crystalline structure of said lead is epitaxially

8 matched to said crystalline structure of said hard bias layer, and ~~A magnetic head as~~

9 ~~described in claim 1~~, wherein said hard bias layer is composed of a cobalt alloy, and

10 wherein said lead layer is formed with a B2 structure.

1 3. (original): A magnetic head as described in claim 2 wherein said lead layer is

2 composed of NiAl.

1 4. (original): A magnetic head as described in claim 2 wherein said lead layer is

2 comprised of NiAl, wherein the Ni composition ranges from approximately 45% to

3 approximately 60%.

1 5. (original): A magnetic head as described in claim 4 wherein said Ni composition  
2 is approximately 50%.

1 6. (cancelled)

1 7. (currently amended): ~~A magnetic head as described in claim 6~~ A magnetic head  
2 having a magnetoresistive sensor, comprising:  
3 a plurality of sensor layers;  
4 a hard bias/lead structure being disposed at side areas of said sensor layers, said  
5 hard bias/lead structure including an electrical lead layer having an ordered crystalline  
6 structure; and wherein said electrical lead layer ordered crystalline structure is selected  
7 from the group consisting of B2, L1<sub>0</sub>, L1<sub>1</sub>, L1<sub>2</sub> and D0<sub>3</sub>.

1 8. (currently amended): ~~A magnetic head as described in claim 6~~ A magnetic head  
2 having a magnetoresistive sensor, comprising:  
3 a plurality of sensor layers;  
4 a hard bias/lead structure being disposed at side areas of said sensor layers, said  
5 hard bias/lead structure including an electrical lead layer having an ordered crystalline  
6 structure; and wherein said electrical lead layer is comprised of a material selected from  
7 the group consisting of NiAl, CuAu, Cu<sub>3</sub>Au, Ni<sub>3</sub>Al and Fe<sub>3</sub>Al.

1 9. (original): A magnetic head having a magnetoresistive sensor, comprising:

2 a plurality of sensor layers;

3 a hard bias/lead structure being disposed at side areas of said sensor layers, said  
4 hard bias/lead structure including a hard bias layer that is comprised of a cobalt alloy, and  
5 an electrical lead layer that is comprised of an NiAl alloy and is deposited directly upon  
6 said hard bias layer.

1 10. (original): A magnetic head as described in claim 9 wherein said NiAl electrical  
2 lead has a B2 crystalline structure.

1 11. (original): A magnetic head as described in claim 9 wherein said NiAl lead layer  
2 includes Ni having a composition between 45% Ni and 60% Ni.

1 12. (original): A magnetic head as described in claim 11 wherein said Ni  
2 composition is approximately 50%.

1 13. (cancelled)

1 14. (currently amended): ~~A hard disk drive as described in claim 13, A hard disk~~  
2 drive including a magnetic head having a magnetoresistive sensor, comprising:

3 a plurality of sensor layers;

4 a hard bias/lead structure being disposed at side areas of said sensor layers, said

5 hard bias/lead structure including:

6    a hard bias layer having a crystalline structure and electrical lead layer having an ordered  
7    crystalline structure, and wherein said crystalline structure of said lead is epitaxially  
8    matched to said crystalline structure of said hard bias layer; and wherein said hard bias  
9    layer is composed of a cobalt alloy, and wherein said lead layer is formed with a B2  
10   structure.

1    15.    (original): A hard disk drive as described in claim 14 wherein said lead layer is  
2    composed of NiAl.

1    16.    (original): A hard disk drive as described in claim 14 wherein said lead layer is  
2    comprised of NiAl, wherein the Ni composition ranges from approximately 45% to  
3    approximately 60%.

1    17.    (original): A hard disk drive as described in claim 16 wherein said Ni  
2    composition is approximately 50%.

1    18.    (cancelled)

1    19.    ~~A hard disk drive including a magnetic head as described in claim 18~~ A hard disk  
2    drive including a magnetic head having a magnetoresistive sensor, comprising:  
3        a plurality of sensor layers;

4        a hard bias/lead structure being disposed at side areas of said sensor layers, said  
5        hard bias/lead structure including an electrical lead layer having an ordered crystalline  
6        structure; and wherein said ordered crystalline structure is selected from the group  
7        consisting of B2, L1<sub>0</sub>, L1<sub>1</sub>, L1<sub>2</sub> and D0<sub>3</sub>.

1        20.        (currently amended): ~~A hard disk drive including a magnetic head as described in~~  
2        ~~claim 18~~ A hard disk drive including a magnetic head having a magnetoresistive sensor,  
3        comprising:

4        a plurality of sensor layers;

5        a hard bias/lead structure being disposed at side areas of said sensor layers, said  
6        hard bias/lead structure including an electrical lead layer having an ordered crystalline  
7        structure; and wherein said electrical lead is comprised of a material selected from the  
8        group consisting of NiAl, CuAu, Cu<sub>3</sub>Au, Ni<sub>3</sub>Al and Fe<sub>3</sub>Al.

1        21.        (original): A hard disk drive including a magnetic head having a magnetoresistive  
2        sensor, comprising:

3        a plurality of sensor layers;

4        a hard bias/lead structure being disposed at side areas of said sensor layers, said  
5        hard bias/lead structure including a hard bias layer that is comprised of a cobalt alloy, and  
6        an electrical lead layer that is comprised of an NiAl alloy and is deposited directly upon  
7        said hard bias layer.

1 22. (original): A hard disk drive as described in claim 21 wherein said NiAl electrical  
2 lead has a B2 crystalline structure.

1 23. (original): A hard disk drive as described in claim 21 wherein said NiAl lead  
2 layer includes Ni having a composition between 45% Ni and 60% Ni.

1 24. (original): A hard disk drive as described in claim 23 wherein said Ni  
2 composition is approximately 50%.

1 25. (withdrawn): A method for fabricating a magnetic head, comprising:  
2 fabricating a plurality of sensor layers upon a substrate, said sensor layers being  
3 formed with end portions thereof;  
4 fabricating a hard bias/lead structure proximate said end portions of said sensor  
5 layers, including:  
6 fabricating a hard bias layer;  
7 fabricating an electrical lead layer directly upon said hard bias layer, where said  
8 electrical lead layer is epitaxially matched to said hard bias layer.

1 26. (withdrawn): A method for fabricating a magnetic head as described in claim 25,  
2 wherein said electrical lead layer is fabricated by ion beam deposition.

1 27. (withdrawn): A method for fabricating a magnetic head as described in claim 25,  
2 wherein said hard bias layer is composed of a cobalt alloy, and wherein said electrical  
3 lead layer is formed with a B2 structure.

1 28. (withdrawn): A method for fabricating a magnetic head as described in claim 25  
2 wherein said electrical lead layer is composed of NiAl.

1 29. (withdrawn): A method for fabricating a magnetic head as described in claim 28,  
2 wherein said electrical lead layer is fabricated by ion beam deposition utilizing a target  
3 having an  $\text{Ni}_x\text{Al}_{1-x}$  composition where x is between 0.46 and 0.50.

1 30. (withdrawn): A method for fabricating a magnetic head, comprising:  
2 fabricating a plurality of sensor layers upon a substrate, said sensor layer being  
3 formed with end portions thereof;  
4 fabricating a hard bias/lead structure proximate end portions of said sensor layers,  
5 including:  
6 fabricating a hard bias layer;  
7 fabricating an electrical lead layer above said hard bias layer, where said lead  
8 layer is fabricated to have an ordered crystalline structure.

1 31. (withdrawn): A method for fabricating a magnetic head as described in claim 30  
2 wherein said electrical lead layer ordered crystalline structure is selected from the group  
3 consisting of B2, L1<sub>0</sub>, L1<sub>1</sub>, L1<sub>2</sub> and D0<sub>3</sub>.

1 32. (withdrawn): A method for fabricating a magnetic head as described in claim 30  
2 wherein said electrical lead layer is comprised of a material selected from the group  
3 consisting of NiAl, CuAu, Cu<sub>3</sub>Au, Ni<sub>3</sub>Al and Fe<sub>3</sub>Al.

1 33. (withdrawn): A method for fabricating a magnetic head as described in claim 32,  
2 wherein said electrical lead layer is fabricated by ion beam deposition.